

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A computer system for presenting related items in a universal data storage device to a user, the system comprising:

a universal data storage device containing a plurality of items stored in accordance with a universal data schema and containing relational information corresponding to at least a portion of said plurality of items, wherein the relational information allows relationships between two or more of the plurality of items to be determined, wherein said universal data storage device utilizes said relational information to delete one or more items from the universal data storage device in response to a change in at least a portion of said relationships, wherein said universal data storage device includes a reference-counting mechanism configured to count the number of relationships between an item and other of said plurality of items in the universal data storage device and being further configured to delete said item from the universal data storage device when all relationships to said item are removed; and

a shell for presenting said plurality of items to a user, wherein the shell is configured to present a selected item to a user and is further configured to utilize said relational information to present one or more items in said data storage device which are related to said selected item.

2. (original) The computer system of Claim 1, wherein the relational information corresponding to one or more of said plurality of items includes a set of item characteristics.

3. (original) The computer system of Claim 2, wherein said shell is configured to present one or more of said set of item characteristics to a user.

4. (previously presented) The computer system of Claim 2, wherein said shell is configured to accept a user input representing a selection to view one or more items in the data storage device having one of said item characteristics.

5. (previously presented) The computer system of Claim 2, wherein said shell is configured to present one or more items in the data storage device which share one of said item characteristics.

6. (original) The computer system of Claim 1, wherein the shell is configured to present at least a portion of said relational information.

7. (previously presented) The computer system of Claim 1, wherein the shell is configured to accept a user input representing a selection to view items in the data storage device which are related to said selected item.

8. (previously presented) The computer system of Claim 7, wherein said relational information corresponding to the selected item includes a set of item characteristics associated with the selected item and wherein said user input represents a selection to view one or more items in the data storage device which share one of said set of item characteristics with the selected item.

9. (currently amended) A computer-implemented method for presenting related items in a universal data storage device to a user, the method comprising:

accessing data in said universal data storage device, wherein said universal data storage device stores a plurality of items in accordance with a universal data schema, and wherein at least a portion of said plurality of items contain relational information which allows relationships between said plurality of items to be determined;

utilizing said relational information to determine a relationship between a selected item and one or more of the items containing said relational information in the data storage device;

displaying said selected item and one or more related items to the user;
receiving a user input causing a change in said relationship;
counting the number of relationships between said selected item and at least a portion of said other of said plurality of items in the universal data storage device; and

~~deleting said selected item at least one of said plurality of items from said universal data storage device when all relationships to said selected item are removed in response to said change.~~

10. (original) The method of Claim 9, wherein the displaying of said selected item and one or more related items includes displaying at least a portion of said relational information to a user.

11. (previously presented) The method of Claim 9, wherein said method further comprises receiving a user input representing a selection to view one or more items in the data storage device which are related to said selected item.

12. (original) The method of Claim 11, wherein the displaying of said selected item and one or more related items is responsive to said input.

13. (currently amended) One or more computer-readable media having computer-executable instructions for performing a method for presenting related items in a universal data storage device to a user, the method comprising:

accessing data in said universal data storage device, wherein said universal data storage device stores a plurality of items in accordance with a universal data schema, and wherein at least a portion of said plurality of items contain relational information which allows relationships between two or more of said plurality of items to be determined, wherein at least a portion of said relationships designate one or more source items and one or more target items;

utilizing said relational information to determine a relationship between a selected item and one or more of the items containing said relational information in the data storage device;

presenting said selected item and one or more related items to the user;

receiving a user input altering at least one of said one or more source items or altering at least a portion of said relationships;

counting the number of relationships between said selected item and at least a portion of said other of said plurality of items in the universal data storage device; and

~~deleting said selected item at least one of said one or more target items from said universal data storage device when all relationships to said selected item are removed if said at least one target item is not related to at least one of said one or more source items.~~

14. (original) The one or more computer-readable media of Claim 13, wherein the relational information includes a set of item characteristics.

15. (previously presented) The one or more computer-readable media of Claim 13, wherein accessing data in said universal data storage device is in response to a user

input representing a selection to view one or more items in the data storage device which are related to said selected item.

16. (previously presented) The one or more computer-readable media of Claim 15, wherein said relational information corresponding to the selected item includes a set of item characteristics associated with the selected item and wherein said user input represents a selection to view one or more items in the data storage device which share one or more item characteristics with the selected item.

17. (previously presented) The one or more computer-readable media of Claim 13, wherein the presenting of said selected item and one or more related items includes presenting at least a portion of said relational information to a user.

18. (currently amended) A shell for presenting related items in a universal data storage device to a user, the shell comprising:

a data storage device interaction component which retrieves data associated with one or more items from the universal data storage device, wherein said one or more items are stored in accordance with a universal data schema and at least a portion of said one or more items contain relational information that allows relationships between two or more items to be determined, wherein at least a portion of said relationships has associated life-time management semantics;

a related item presentation component which utilizes said retrieved data to present related items to a user, wherein the relationship presentation component is configured to present a selected item to a user and is further configured to utilize said relational information to present one or more items in said data storage device which are related to said selected item; and

an item life-time management control configured to count the number of relationships between an item and other of said plurality of items in the universal data storage device and being further configured to delete said item from the universal data storage device when all relationships to said item are removed which utilizes said associated life time management semantics to delete one or more items from the universal data storage device in response to a change in at least a portion of said relationships.

19. (previously presented) The shell of Claim 18, wherein the relational information corresponding to one or more of said plurality of items includes a set of item characteristics.

20. (previously presented) The shell of Claim 19, wherein said related item presentation component is configured to present one or more of said set of item characteristics to a user.

21. (previously presented) The shell of Claim 19, wherein said related item presentation component is configured to present one or more items in the data storage device which share one of said item characteristics.

22. (previously presented) The shell of Claim 18, wherein the related item presentation component is configured to present at least a portion of said relational information.

23. (previously presented) The shell of Claim 18, wherein the shell is configured to accept a user input representing a selection to view items in the data storage device which are related to said selected item.

24. (previously presented) The shell of Claim 23, wherein said relational information corresponding to the selected item includes a set of item characteristics associated with the selected item and wherein said user input represents a selection to view one or more items in the data storage device which share one of said set of item characteristics with the selected item.

25. (currently amended) A computer system for presenting related items in a universal data storage device to a user, the system comprising:

means for accessing data in said universal data storage device, wherein said universal data storage device stores a plurality of items in accordance with a universal data schema, and wherein at least a portion of said plurality of items contain relational information which allows relationships between said plurality of items to be determined;

means for utilizing said relational information to determine a relationship between a selected item and one or more of the items containing said relational information in the data storage device;

means for displaying said selected item and one or more related items to the user;

means for receiving a user input causing a change in at least one of said relationships;

means for counting the number of relationships between said selected item and at least a portion of said other of said plurality of items in the universal data storage device; and

means for deleting said selected item at least one of said plurality of items from said universal data storage device when all relationships to said selected item are removed in response to said change.

26. (previously presented) The computer system of Claim 25, wherein the relational information corresponding to one or more of said plurality of items includes a set of item characteristics.

27. (previously presented) The computer system of Claim 26, wherein said means for displaying are configured to present one or more of said set of item characteristics to a user.

28. (previously presented) The computer system of Claim 26, wherein said means for accessing data in said universal data storage device interacts with said data storage device in response to a user input representing a selection to view one or more items in the data storage device having one of said item characteristics.